

1- 14 - Canceled

15. (currently amended): A real time PCR instrument comprising

at least 1 light source,

a plurality of a least 5 optical fiber bundles, each said bundle transmitting light to one of a plurality of at least 5 separate fluorescent detector entities,

each of said detector entities having a central detection ~~wavelengths~~ wavelength,
~~which are said wavelengths being~~ distinct from each other by at least 25 -30 nm;
and characterized in that said plurality of detector entities ~~are~~ is capable of
simultaneously detecting maximum fluorescence emission of at least five different
fluorescent compounds,

~~3 differently labeled FRET Hybridization Probe pairs, simultaneously detecting~~
~~maximum fluorescence emission of at least 2 differently labeled TaqMan~~
~~hybridization probes, and detecting maximum fluorescence emission of SybrGreenI~~

means for heating and cooling, and

multiple reaction vessels for containing a reaction mixture.

16. (previously amended): A real time PCR instrument according to claim 15 comprising one light source.

17. (previously amended): An instrument according to claim 15, wherein said central detection wavelengths are selected from a group of range of wavelengths, said group consisting of 520-540 nm, 545-565 nm, 570-590 nm, 600-620 nm, 630-650 nm, 660-680 nm, and 700-720 nm.